Linux

- Linux is an open source operating system (OS). An operating system is the software that directly manages a system's hardware and resources, like CPU, memory, and storage.

- Example of Linux Operating system

- Amazon Linux
- Ubuntu
- CentOS
- Red Hat Enterprise Linux

Linux Commands

- To Learn Linux Commands, create Amazon Linux EC2 machine
- Connect to the machine
- **Create a file**

cat > <File_Name>

- **Type the content which we have to save in the file**
- Press Enter
- Press ctrl + d

Linux Commands

- **List of Files Created**

ls

- **Clear the Screen**

clear

- Press Enter

- **Read the File Content**

cat <File_name>

- **Remove a file**

rm <file_Name>

Linux Commands

- Check the file

ls

- **Create a directory**

mkdir <Directory_Name>

- **Check the File**

ls

- **Check the current path**

pwd

- **Change Directory**

cd <Directory_Name>

Linux Commands

- **Check the current path**

pwd

- **Create a file in directory**

cat > <File_name>

- **Type content which we have to save in the file**

- Press Enter

- Press CTRL+D

- **List of Files Created**

ls

Linux Commands

- **Go to Previous directory**

cd ..

- **Check the Files**

ls

- **Delete a directory**

rmdir <Director_Name>

- **Delete a directory with files**

rm -r <Directory_Name>

Linux Commands

- **Create a directory into the directory (d1 → d2)**

- **Create Directory**

mkdir <Directory_Name>

- **Change Directory**

cd <Directory_Name>

- **Create Directory**

mkdir <Directory_Name>

- **Change Directory**

cd <Directory_Name>

Linux Commands

- **Check the current path**

pwd

- **Go to main directory**

cd

- **Move to Path**

cd mentions the path

- **Go to main directory**

cd

Linux Commands

- **Create One File & Write some content in file**

cat > aws

- **List information about the FILEs**

ls -l

- l stands for long list

- **Create hidden file**

touch .training

- **Check the files**

ls

Linux Commands

- **How to see hidden files**

ls -a

- **How to create copy of a file**

cp <Source_File_Name> <Destination_file_Name>

- Check the File

ls

- **Read the file**

cat <file_name>

Linux Commands

- **How to check current user**

whoami

- **To see the list of files according to timestamp**

ls -lt

- **Difference between $ and #**
- Dollar sign ($) means you are a normal user.
- Hash (#) means you are the system administrator (root).

Linux Commands

- **How to switch from one user to another user**

su root

- **Importance of “sudo” stands for “super user do”**

sudo su root

- **Check current user**

Whoami

- **Switch Again to EC2-User User**

su ec2-user

Linux Commands

- **To get the current date**
- date

- **Understanding file permissions**
- ls -l

- All the three owners (user owner, group, others) in the Linux system have three types of permissions defined. Nine characters denotes the three types of permissions.

Linux Commands

- **Read (r):** The read permission allows you to open and read the content of a file. But you can't do any editing or modification in the file. It is representing Number 4.
- **Write (w):** The write permission allows you to edit, remove or rename a file. For instance, if a file is present in a directory, and write permission is set on the file but not on the directory, then you can edit the content of the file but can't remove, or rename it. It is representing Number 2.
- **Execute (x):** In Unix type system, you can't run or execute a program unless execute permission is set. It is representing Number 1.

Linux Commands

- **Changing the file permissions**
- chmod (Change Mode)

- **There are two ways we can change permission of our files.**

- Absolute Mode (Numerical)
- Symbolic Mode (Alphabetical)

Linux Commands

- **Absolute Mode (Numerical)**

Number	Octal Permission Representation	Ref
0	No permission	---
1	Execute permission	--x
2	Write permission	-w-
3	Execute and write permission: 1 (execute) + 2 (write) = 3	-wx
4	Read permission	r--
5	Read and execute permission: 4 (read) + 1 (execute) = 5	r-x
6	Read and write permission: 4 (read) + 2 (write) = 6	rw-
7	All permissions: 4 (read) + 2 (write) + 1 (execute) = 7	rwx

Linux Commands

- chmod 764 <File_Name>

- **Now check the files**

ls -l

- chmod 777 <File_Name>

- **Check the files**

ls -l

- chmod 444 <File_Name>

- **Check the files**

ls -l

Linux Commands

- chmod 700 <File_name>

- **Check the files**

ls -l

- chmod 600 <File_name>

- **Check the files**

ls -l

Linux Commands

- **Symbolic Mode (Alphabetical)**

Symbol	Function	Description
u	Who	User (owner)
g	Who	Group
o	Who	Others
a	Who	All
+	Operation	Add
-	Operation	Remove
r	Permission	Read
w	Permission	Write
x	Permission	Execute

Linux Commands

- chmod u+x <File_Name>

- **Check the files**

ls -l

- chmod u-x <File_Name>

- **Check the files**

ls –l

- chmod g+w,o+x <file_name>

- **Check the files**

ls -l

Linux Commands

- **First Few lines in file**

- **Create a file**

cat > <File_name>

- Add some Content in the file

- **Read the file**

cat <file_name>

- head -2 <file_name>

Linux Commands

- **Last Few lines in file**

tail -1 <file_name>

- **Word Count in File**

wc <file_name>

- The command will display the number of lines, number of words, number of bytes, and file name from the file.

- **Pipe command in linux**

head -2 <file_name> | tail -1

Linux Commands

- **APT Repository**

- An Apt Repository is a collection of packages. APT Repository allows you to perform package install, removal, upgrade operations on individual packages.
- In Red hat & Amazon Linux it is called YUM Repository.

- **Create a directory into the directory (d1 → d2)**

- We can use the directory which we have created in the above example.

Linux Commands

- tree <Directory_Name>

- When you use the TREE command each directory name is displayed along with the names of any subdirectories within it.

- Command is not working

- **Install the packages from APT repository**

- Step1: Update APT Repository
- Step2: Install the Package

Linux Commands

- **Update YUM Repository**

sudo apt-get update

- **Install the Package**

sudo apt-get install <package_name>

- sudo yum install tree

- sudo apt-get install tree

- **To get the current month**

cal

sudo apt-get install ncal

Linux Commands

- **Edit the File**
- vi <File_name>

- In vi command there are two modes:

- Command Mode
- Insert Mode

- By Default, system will open the file in command mode

- Press i

Linux Commands

- Now edit the file

- **Save the file**

Press Esc

- **Save and exit**

:wq!

- **Exit without saving**

:q!

Linux Commands

- **By using editor also, we can create a file**

vi <file_name>

- Enter the content

- **Save and exit**

:wq!

- **All Linux Commands: Click Here**